



# WELDING ELECTRODES

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MILD STEEL	DESCRIPTION	APPLICATION	DIAMETER		
			MM	INCHES	AMPS
<b>ELECTROWELD 6010</b>	Thinly coated electrode with a powerful and stable arc. Deep penetration for all position welding. DC(+)	Welding of general structures such as pipe and steel structures. Good for easy vertical downward welding.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 80-120 130-160 170-210
<b>ELECTROWELD 6011</b>	High cellulose type electrode with deep penetrating arc. Easy to ignite and control, minimal slag. For all position welding. AC, DC(+)	Welding in narrow grooves, pipes, structural works, ship repairs, sheet steels, bridges, boilers, barges. Good for vertical and overhead welding.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 80-120 105-180 150-230
<b>ELECTROWELD GP-11</b>	High cellulose type electrode for all position welding. Deep penetration, easy to ignite, and produces minimal slag. AC, DC(+)	Welding in repair and fabrication works. Helpful in welding of greasy or corroded steel. Alternative to E6011 in most cases.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 80-120 105-180 150-230
<b>ELECTROWELD 6012</b>	High rutile electrode. Operation is easy, arc is quiet, smooth bead appearance, and easy slag removal. All position welding. AC, DC(+)	Welding of thin plates and mild steel sheets, construction works, car and truck body steel furniture, finishing weld on heavy sections.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 60-120 105-180 150-230
<b>ELECTROWELD 6013</b>	High rutile electrode with a beautiful bead appearance. Shallow penetration, calm arc, minimal spatter, easy slag removal. All position welding. AC, DC	Welding of mild steel in construction and steel fabrications, tanks, cars and trucks, window grills, steel doors and frames, farm equipment, machinery and maintenance.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 80-120 105-180 150-230
<b>ELECTROWELD GP-13</b>	High rutile electrode that provides a stable arc, easy slag detachability, and good bead appearance. All position welding. AC, DC	Welding steel tanks, structural steel fabrication, vehicles, furniture, equipment, machineries, etc. Alternative to E6013 in most cases.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-90 80-120 105-180 150-230
<b>HIGH TENSILE STEEL</b>					
<b>ELECTROWELD 7014</b>	High rutile and iron powder electrode that has smooth and stable arc, low spatter, easy slag removal and beautiful bead appearance. Low to medium penetration. All positions. AC, DC (+)	Construction equipment, bridges, structural steel, metal fixtures, automotive parts, barges and farm machinery. Useful for projects in damp conditions.	3.2 4.0 5.0	1/8" 5/32" 3/16"	90-140 120-200 140-250
<b>ELECTROWELD 7016</b>	Low hydrogen electrode with quiet arc and minimal spatter. Recommended for crack-free and porosity-free welds. Used in highly restrained joints. All positions. AC, DC (+)	Bridges, shipbuilding, heavy steel plating and castings, pressure vessels. Applicable to low alloy, high and medium carbon, high sulfur, cold rolled steels, and other difficult-to-weld steels.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	50-80 90-120 130-160 160-200
<b>ELECTROWELD 7018</b>	Low hydrogen electrode with high working efficiency for all positions. Excellent crack resistance for high tensile welding. All positions. AC, DC (+)	Welding of low alloy structural steel, extremely thick mild steel plates, carbon steel, pressure vessel, boilers, etc.	2.6 3.2 4.0 5.0	3/32" 1/8" 5/32" 3/16"	60-100 90-140 120-200 140-240
<b>ELECTROWELD 9016</b>	Low hydrogen type electrode for all-position welding. High deposit rate, steady arc, and good slag removal. Excellent crack resistance and mechanical properties. AC, DC(+)	Shipbuilding, offshore structures, high pressure pipes, pressure vessels, penstocks, bridges, machine fabrication.	3.2 4.0	1/8" 5/32"	90-140 140-180
<b>ELECTROWELD 9018</b>	Low hydrogen all position electrode for welding higher strength steels. Resists moisture under high heat and humidity. AC, DC(+)	Cranes and other heavy transport equipment, pressure vessels, boilers, pipes, and offshore equipment.	3.2 4.0	1/8" 5/32"	90-140 140-180
<b>CAST IRON</b>					
<b>ELECTROCAST 100</b>	Pure nickel core wire electrode designed to deposit crack-free, easily machinable weld metal. Used at low current to minimize heat input. Little spatter, very stable arc, shallow penetration. AC, DC (+)	Cold repair and joining of alloy and ductile cast iron, or other cast iron where strength and machinability are required. Cylinder heads and blocks, manifolds, motor and gear housing, etc.	3.2 4.0	1/8" 5/32"	70-120 100-140
<b>ELECTROCAST 55</b>	Graphite-coated electrode with ferronickel core wire. Exhibits high crack resistance. Strong and ductile weld deposit. Welded area is resistant to air or water pressure. AC, DC (+)	Welding modular, ductile and malleable cast iron, or other cast iron parts where strength, ductility and machinability are needed. For heavy machine base, cylinder heads and blocks.	3.2 4.0	1/8" 5/32"	80-120 120-150
<b>STAINLESS STEEL</b>					
<b>STAINLESS STEEL ESS-308</b>	Lime titania electrode that deposits weld metal of 19%Cr-9%Ni. Stable arc, easy slag removal, easy to weld, beautiful bead appearance. Good resistance against heat and corrosion. AC, DC (+)	Suitable as protective surfacing on steels that require corrosion resistance and mild impact. Used for chemical food beverage, distillery, fertilizer, equipment and tanks.	1.6 2.0 2.6 3.2 4.0	1/16" 5/64" 3/32" 1/8" 5/32"	15-30 30-50 45-70 70-100 100-140
<b>STAINLESS STEEL ESS-308L</b>	Lime titania electrode depositing 19%Cr-9%Ni extra low carbon weld metal. High resistance against intergranular corrosion. AC, DC (+)	Used for welding AISI 304 and 304L stainless steels where resistance to severe corrosion is required or post-heat treatment is difficult. Substitute for E308 in most applications.	1.6 2.0 2.6 3.2 4.0	1/16" 5/64" 3/32" 1/8" 5/32"	15-30 30-50 45-70 70-100 100-140
<b>STAINLESS STEEL ESS-309</b>	Lime titania electrode depositing 23%Cr-13%Ni weld metal. Resistant to corrosion and oxidation at elevated temperatures. Very tough. AC, DC (+)	Used to weld AISI 309 steels, straight chrome steels, and welding dissimilar steels, e.g. mild to stainless steel, low alloy to stainless steel.	2.6 3.2	3/32" 1/8"	45-70 70-100
<b>STAINLESS STEEL ESS-310</b>	Lime titania electrode depositing 25% Cr-20% Ni stainless steel weld metal. High resistance against corrosion and oxidation even at high temperatures. Exhibits high ductility and strength. AC, DC (+)	Welding 25%Cr-20%Ni stainless steel and 18% Cr-8% Ni stainless clad steel. Can weld dissimilar steel, e.g. mild to Cr-Mo steel, heat-resistant to heat-treated alloy steel, carbon to stainless steel.	2.6 3.2	3/32" 1/8"	45-80 65-100
<b>STAINLESS STEEL ESS-312</b>	Lime titania electrode depositing 29% Cr-9% Ni weld metal. Weld metal contains ferrite, resulting in high resistance against cracks. AC, DC (+)	Welding dissimilar metals such as stainless steel to mild steel or low alloy steel. Also used as underlaying build up of hardsurfacing.	2.6 3.2 4.0	3/32" 1/8" 5/32"	45-80 60-110 90-150
<b>STAINLESS STEEL ESS-316</b>	Lime titania electrode depositing 20% Cr-12% Ni-2% Mo austenitic stainless steel. Excellent resistance against sulfuric, phosphoric, acetic acids. Good creep strength. AC, DC (+)	Welding AISI 316 stainless steel, and joining dissimilar metals, e.g. mild and stainless steel. Used as underlaying build up for hardsurfacing.	2.6 3.2 4.0	3/32" 1/8" 5/32"	45-80 70-120 100-140
<b>STAINLESS STEEL ESS-316L</b>	Lime titania electrode depositing extra low carbon 19% Cr-13% Ni-2% Mo austenitic stainless steel. Excellent resistance against acids even at high temperature. AC, DC (+)	Welding AISI 316 stainless steel. Ideally suited to weld extra low carbon Mo-bearing austenitic alloys where post-heat treatment is difficult to apply.	2.6 3.2 4.0	3/32" 1/8" 5/32"	45-80 70-120 100-140
<b>HARD SURFACING</b>					
<b>ELECTROHARD 300</b>	Titania type electrode designed for good machining property and easy use. AC, DC (-)	Overlaying worn plates such as crane wheels, bulldozer and scraper blades, crusher, dipper, tip and tooth, etc.	3.2 4.0 5.0	1/8" 5/32" 3/16"	110-140 140-170 180-220
<b>ELECTROHARD 600</b>	Low hydrogen-type electrode depositing weld metal of martensite structures. Self-hardening properties. Machining is not possible. AC, DC (+)	Suitable for soil abrasion, and light impact abrasion. Typically used for hardsurfacing of bulldozer links, bucket edges, dipper teeth, etc.	3.2 4.0 5.0	1/8" 5/32" 3/16"	120-150 150-190 180-230
<b>ELECTROHARD 800</b>	Used for severe abrasion, light impact and corrosion resistance. Produces an extremely hard, martensite-structure weld deposit even at high heat. Not machinable as is. AC, DC (+)	Used for bucket teeth, valve seats, mixers, mill hammers, soil abrasion equipment, as well as other mild, carbon, alloy, and manganese steels.	3.2 4.0 5.0	1/8" 5/32" 3/16"	120-150 150-190 180-230
<b>GOUGING &amp; CUTTING</b>					
<b>ELECTROGROOVE</b>	Forced gas electrode which gives out forceful spray and high temperature arc that can melt and cut various kinds of metal. AC, DC	Gouging, back chipping, removal of welding defects and unwanted sections, cutting, holing, etc.	3.2 4.0 5.0	1/8" 5/32" 3/16"	150-180 230-280 280-330